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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/594,551 | Applicant(s) SUGITANI, TOSHIYUKI | |
| | Examiner KRISTEN GAO | Art Unit 2617 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 32-102 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 32-102 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/27/2006, 11/21/2006 and 09/28/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. Claims 32-102 are presented for examination.

Priority

2. Acknowledgment is made of applicant's claims for foreign priority based on an application filed in Japan:

JP 2004-098978, filed on 03/30/2004

JP 2004-098977, filed on 03/30/2004

JP 2004-098976, filed on 03/30/2004

Has been considered.

Information Disclosure Statement

3. The information disclosure statements (IDS) submitted on September 27, 2006, November 21, 2006 and September 28, 2007 were filed. IDSs are only partially considered because some of the foreign prior arts and/or English translation of the abstract are not submitted with the application. See attached eDAN IDS sheet for more information.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claims 32-35, 46 and 47 are rejected under 35 U.S.C. 103(a) as been unpatentable over Kondo et al. (Adaptive Time Diversity for TDMA/TDD Personal Communication Systems, 1995 Fourth IEEE International Conference on Universal Personal Communications Record, Gateway to the 21st Century, Tokyo, Nov. 6-10, 1995, no. CONF. 4, 6 November 1995, Pages 973-976, XP000690097, IEEE, New York, US), hereinafter D1, in view of Paatelma et al. (WIPO Pub. No. WO 99/14885), hereinafter Paatelma.

Regarding to Claim 32, D1 teaches *a radio communication system using TDMA-TDD (Time Division Multiple Access Time Division Duplex) radio communication for dividing one frame having a predetermined time period into N time slots and performing communication of independent signals at each of the time slots* (Figure 1 and Page 973 Right Column Section "A. Transmission System Model"; TDMA-TDD that divides one frame into N time slots), *wherein the radio communication system comprises a master station and one or more slave stations* (Figure 1; base station and portable station), *wherein, when duplex communication between the master station and the slave station is performed, the master station performs TDMA-TDD radio communication using two time slots having a predetermined positional relation in the frame* (Figure 1 and Page 973 Right Column; time division duplex with two time slots), *and when simplex communication from the master station to the one or more slave stations is performed, the master station divides a transmission signal into signals having a one-time-slot transmittable length and*

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performs TDMA radio communication using M time slots (1.ltoreq.M.ltoreq.N) (Table 1 and Page 973 Right Column; each codeword is split into N_{slot} slots, where 1<=N<=number of slots per frame), the M time slots including a first time slot and other time slots (Table 1 and Page 973 Right Column; each codeword is split into N_{slot} slots, where 1<=N<=number of slots per frame), the other time slots being utilized for transmitting one divided transmission signal of the divided transmission signals multiple times (Figure 2; transmits divided signal multiple times), the first time slot having a predetermined positional relation with the other time slots (Pages 973-974 Section B "Adaptive Time Diversity Algorithm"; the m-th slot, which is modulated, is denoted by $x_m = (x_{1m}, x_{2m}, \dots, x_{lm})$, where $l = n/N_{\text{slot}}$), and wherein the slave station performs reception of the M time slots transmitted by the master station (Page 974 Left Column; the receiver sorts the order of the received slots and holds the received codeword).

D1 may not specifically teach *the first time slot being utilized for transmitting a control signal*. Paatelma teaches the base station transmits a traffic/control channel message having a slotted frame structure and transmits the soft information in the first time slot (Page 4). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have *the first time slot being utilized for transmitting a control signal* because it informs the receiver what time slot to expect the packet.

Regarding to Claim 33, the combination of D1 and Paatelma teaches all of the limitations of Claim 32, as described above. Further, D1 teaches *and wherein the slave station receives the broadcast signal and determines a time slot for receiving the transmission signal* (Page 974 Left Column; the receiver sorts the order of the received slots and holds the received codeword).

D1 may not specifically teach *the master station transmits a broadcast signal for notifying information on the time slot used to transmit the transmission signal*. In the same analogous art, Paatelma teaches base station transmits a traffic/control channel message having a slotted frame structure and transmits the soft information in the first time slot (Page 4). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have *the master station transmits a broadcast signal for notifying information on the time slot used to transmit the transmission signal* because it informs the receiver what time slot to expect the packet.

Regarding to Claim 34, the combination of D1 and Paatelma teaches all of the limitations of Claim 32, as described above. Further, D1 teaches *wherein the communication is performed using a frequency hopping scheme* (Table 2 and Page 974 Right Column; first transmission, the carrier frequency of slot x1 is fC1 and the carrier frequency of slot x2 is fC2 and so on. in the second transmission, the carrier frequency of slot x1 is FCNslot and the carrier frequency of slot x2 is fC1 and so on; frequency hopping scheme).

Regarding to Claim 35, the combination of D1 and Paatelma teaches all of the limitations of Claim 34, as described above. Further, D1 teaches *wherein hopping sequences used at the N time slots for transmitting the transmission signal are selected as at least two different hopping sequences* (Table 2 and Page 974 Top Half; transmitting the signal are selected as at least two different hopping sequences).

Regarding to Claim 46, the combination of D1 and Paatelma teaches all of the limitations of Claim 33, as described above. Claim 46 recites similar features as Claim 34, and thus is rejected on the same ground as Claim 34.

Regarding to Claim 47, the combination of D1 and Paatelma teaches all of the limitations of Claim 46, as described above. Claim 47 recites similar features as Claim 35, and thus is rejected on the same ground as Claim 35.

6. Claims 36-38, 42-45, 51, 58, 65, 66, 73, 80, 81, 88, 95 and 96 are rejected under 35 U.S.C. 103(a) as been unpatentable over Kondo et al. (Adaptive Time Diversity for TDMA/TDD Personal Communication Systems, 1995 Fourth IEEE International Conference on Universal Personal Communications Record, Gateway to the 21st Century, Tokyo, Nov. 6-10, 1995, no. CONF. 4, 6 November 1995, Pages 973-976, XP000690097, IEEE, New York, US), hereinafter D1, in view of

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Paatelma et al. (WIPO Pub. No. WO 99/14885), hereinafter Paatelma, further in view of Castaldo (WIPO Pub. No. WO 03/096696 A1).

Regarding to Claim 36, the combination of D1 and Paatelma teaches all of the limitations of Claim 32, as described above.

The combination of D1 and Paatelma may not specifically teach *the transmission signal is image information*. In the same analogous art, Castaldo teaches portable video entryphone that is capable of transmitting image (Page 2 Lines 10-15). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have *transmission signal is image information* because it will provide higher accuracy in identify the visitor.

Regarding to Claim 37, D1 teaches *a door phone system comprising: a base station for transmitting signals* (Figure 1; base station for transmitting signals); *and an extended base station for receiving the signals* (Figure 1; portable station for receiving signals), *wherein the base station comprises: a radio unit for dividing a predetermined frame into N slots and performing communication at each of the time slots by using a TDMA-TDD (Time Division Multiple Access Time Division Duplex) radio communication* (Figure 1 and Page 973 Right Column Section "A. Transmission System Model"; TDMA-TDD that divides one frame into N time slots); *storage unit for having an interface for inputting signal, the storage unit storing the input signal* (Figure 3; transmitter buffer storing the input signal and has an interface for inputting signal); *and control unit for dividing the image information stored in the storage means into data transmitted at the one time slot, designating order numbers to the divided data, and transmitting the order numbers* (Page 974 Left Column; the receiver sorts the order of the received slots and holds the received codeword) *and the divided image information multiple times repeatedly at M time slots (1.ltoreq.M.ltoreq.N)* (Table 1 and Page 973 Right Column; each codeword is split into N_{slot} slots, where $1 \leq N \leq \text{number of slots per frame}$), *and wherein the extended base station comprises: a radio unit for dividing the frame into the time slots and performing communication using the TDMA-TDD radio communication at each of the time slots* (Figure 1 and Page 973 Right Column Section "A. Transmission

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System Model"; TDMA-TDD that divides one frame into N time slots); *and control unit for receiving the order numbers and the divided image information multiple times at the M time slots* (Page 974 Left Column; the receiver sorts the order of the received slots and holds the received codeword), *discarding redundantly-received image information* (Page 973 Left Column Last Paragraph; transmitted signals with errors are discarded).

D1 may not specifically teach *the time slot being utilized for transmitting a control signal*.

Paatelma teaches the base station transmits a traffic/control channel message having a slotted frame structure and transmits the soft information in the first time slot (Page 4). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have *the first time slot being utilized for transmitting a control signal* because it informs the receiver what time slot to expect the packet.

The combination of D1 and Paatelma may not specifically teach *image information and display unit for displaying the received image information*. In the same analogous art, Castaldo teaches portable video entryphone that is capable of transmitting image (Page 2 Lines 10-15) and a display unit for displaying the received image (Page 2 Lines 10-15). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have *image information and display unit for displaying the received image information* because it will provide higher accuracy in identify the visitor.

Regarding to Claim 38, the combination of D1/Paatelma/Castaldo teaches all of the limitations of Claim 37, as described above. Claim 38 recites similar features as Claim 33, and thus is rejected on the same ground as Claim 33. Claim 38 further recites an image information. In the same analogous art, Castaldo teaches portable video entryphone that is capable of transmitting image (Page 2 Lines 10-15). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have *transmission signal is image information* because it will provide higher accuracy in identify the visitor.

Regarding to Claim 42, the combination of D1/Paatelma/Castaldo teaches all of the limitations of Claim 37, as described above. Further, D1 teaches *wherein times of transmitting the image information from the extended base station to the base station is directed, and the base station changes*

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the times of transmitting the image information in accordance with the directed times (Page 974 Left Column; if the received codeword is assumed to be correct, a positive ACK is sent to the transmitter to prevent times from been increased; otherwise, send NACK to the transmitter and expect another transmission of the codeword).

Regarding to Claim 43, the combination of D1/Paatelma/Castaldo teaches all of the limitations of Claim 37, as described above. Claim 43 recites similar features as Claim 34, and thus is rejected on the same ground as Claim 34.

Regarding to Claim 44, the combination of D1/Paatelma/Castaldo teaches all of the limitations of Claim 43, as described above. Claim 44 recites similar features as Claim 35, and thus is rejected on the same ground as Claim 35.

Regarding to Claim 45, the combination of D1/Paatelma/Castaldo teaches all of the limitations of Claim 43, as described above.

D1 may not specifically teach *wherein the base station includes a camera and the base station transmits the image information obtained by the camera*. In the same analogous art, Castaldo teaches portable video entryphone that includes a camera and is capable of transmitting image (Page 2 Lines 10-15) and a display unit for displaying the received image (Page 2 Lines 10-15). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have *wherein the base station includes a camera and the base station transmits the image information obtained by the camera* because it will provide higher accuracy in identify the visitor.

Regarding to Claim 51, the combination of D1/Paatelma/Castaldo teaches all of the limitations of Claim 38, as described above. Claim 51 recites similar features as Claim 42, and thus is rejected on the same ground as Claim 42.

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Regarding to Claim 58, the combination of D1/Paatelma/Castaldo teaches all of the limitations of Claim 38, as described above. Claim 58 recites similar features as Claim 34, and thus is rejected on the same ground as Claim 34.

Regarding to Claim 65, the combination of D1/Paatelma/Castaldo teaches all of the limitations of Claim 42, as described above. Claim 65 recites similar features as Claim 34, and thus is rejected on the same ground as Claim 34.

Regarding to Claim 66, the combination of D1/Paatelma/Castaldo teaches all of the limitations of Claim 51, as described above. Claim 66 recites similar features as Claim 34, and thus is rejected on the same ground as Claim 34.

Regarding to Claim 73, the combination of D1/Paatelma/Castaldo teaches all of the limitations of Claim 58, as described above. Claim 73 recites similar features as Claim 35, and thus is rejected on the same ground as Claim 35.

Regarding to Claim 80, the combination of D1/Paatelma/Castaldo teaches all of the limitations of Claim 65, as described above. Claim 80 recites similar features as Claim 35, and thus is rejected on the same ground as Claim 35.

Regarding to Claim 81, the combination of D1/Paatelma/Castaldo teaches all of the limitations of Claim 66, as described above. Claim 81 recites similar features as Claim 35, and thus is rejected on the same ground as Claim 35.

Regarding to Claim 88, the combination of D1/Paatelma/Castaldo teaches all of the limitations of Claim 58, as described above. Claim 88 recites similar features as Claim 45, and thus is rejected on the same ground as Claim 45.

Regarding to Claim 95, the combination of D1/Paatelma/Castaldo teaches all of the limitations of Claim 65, as described above. Claim 95 recites similar features as Claim 45, and thus is rejected on the same ground as Claim 45.

Regarding to Claim 96, the combination of D1/Paatelma/Castaldo teaches all of the limitations of Claim 66, as described above. Claim 96 recites similar features as Claim 45, and thus is rejected on the same ground as Claim 45.

7. Claims 39-41, 48-50, 52-57, 59-64, 67-72, 74-79, 82-87, 89-94 and 97-102 are rejected under 35 U.S.C. 103(a) as been unpatentable over Kondo et al. (Adaptive Time Diversity for TDMA/TDD Personal Communication Systems, 1995 Fourth IEEE International Conference on Universal Personal Communications Record, Gateway to the 21st Century, Tokyo, Nov. 6-10, 1995, no. CONF. 4, 6 November 1995, Pages 973-976, XP000690097, IEEE, New York, US), hereinafter D1, in view of Paatelma et al. (WIPO Pub. No. WO 99/14885), hereinafter Paatelma, further in view of Castaldo (WIPO Pub. No. WO 03/096696 A1), additionally in view of Odenwalder et al. (US Pub. No. 2002/0159412 A1), hereinafter Odenwalder.

Regarding to Claim 39, the combination of D1/Paatelma/Castaldo teaches all of the limitations of Claim 37, as described above.

The combination of D1/Paatelma/Castaldo may not specifically teach *wherein the base station transmits a control signal synchronized with the time slot, and wherein the extended base station receives the control signal and performs communication in synchronization with the base station*. In the same analogous art, Odenwalder teaches the forward link comprises a synchronization channel (Paragraph 0027). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have *the base station transmits a control signal synchronized with the time slot, and wherein the extended base station receives the control signal and performs communication in synchronization with*

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the base station because it requires less controlling mechanism that would be required for an asynchronous system.

Regarding to Claim 40, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 39, as described above. Further, D1 teaches *when the signal is transmitted, the base station performs transmission of the signal at the M time slots* (Table 1 and Page 973 Right Column; each codeword is split into N_{slot} slots, where $1 \leq N \leq \text{number of slots per frame}$) *including at least a time slot having a predetermined positional relation with the time slot for transmitting the control signal* (Pages 973-974 Section B "Adaptive Time Diversity Algorithm"; the m-th slot, which is modulated, is denoted by $x_m = (x_{1m}, x_{2m}, \dots, x_{lm})$, where $l = n/N_{\text{slot}}$).

D1 may not specifically teach *one of a time slot for transmitting the control signal*. Paatelma teaches the base station transmits a traffic/control channel message having a slotted frame structure and transmits the soft information in the first time slot (Page 4). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have *one of a time slot for transmitting the control signal* because it informs the receiver what time slot to expect the packet.

The combination of D1 and Paatelma may not specifically teach *image information*. In the same analogous art, Castaldo teaches portable video entryphone that is capable of transmitting image (Page 2 Lines 10-15). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have *image information* because it will provide higher accuracy in identify the visitor.

Regarding to Claim 41, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 39, as described above.

D1 may not specifically teach *wherein the base station transmits the broadcast signal at least one times instead of the control signal or together with the control signal at the time slot for transmitting the control signal*. In the same analogous art, Paatelma teaches base station transmits a traffic/control channel message having a slotted frame structure and transmits the soft information in the first time slot (Page 4). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention

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to have *he base station transmits the broadcast signal at least one times instead of the control signal or together with the control signal at the time slot for transmitting the control signal* because it informs the receiver what time slot to expect the packet.

Regarding to Claim 48, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 38, as described above. Claim 48 recites similar features as Claim 39, and thus is rejected on the same ground as Claim 39.

Regarding to Claim 49, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 48, as described above. Claim 49 recites similar features as Claim 40, and thus is rejected on the same ground as Claim 40.

Regarding to Claim 50, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 48, as described above. Claim 50 recites similar features as Claim 41, and thus is rejected on the same ground as Claim 41.

Regarding to Claim 52, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 39, as described above. Claim 52 recites similar features as Claim 42, and thus is rejected on the same ground as Claim 42.

Regarding to Claim 53, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 48, as described above. Claim 53 recites similar features as Claim 42, and thus is rejected on the same ground as Claim 42.

Regarding to Claim 54, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 40, as described above. Claim 54 recites similar features as Claim 42, and thus is rejected on the same ground as Claim 42.

Regarding to Claim 55, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 49, as described above. Claim 55 recites similar features as Claim 42, and thus is rejected on the same ground as Claim 42.

Regarding to Claim 56, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 41, as described above. Claim 56 recites similar features as Claim 42, and thus is rejected on the same ground as Claim 42.

Regarding to Claim 57, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 50, as described above. Claim 57 recites similar features as Claim 42, and thus is rejected on the same ground as Claim 42.

Regarding to Claim 59, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 39, as described above. Claim 59 recites similar features as Claim 34, and thus is rejected on the same ground as Claim 34.

Regarding to Claim 60, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 48, as described above. Claim 60 recites similar features as Claim 34, and thus is rejected on the same ground as Claim 34.

Regarding to Claim 61, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 40, as described above. Claim 61 recites similar features as Claim 34, and thus is rejected on the same ground as Claim 34.

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Regarding to Claim 62, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 49, as described above. Claim 62 recites similar features as Claim 34, and thus is rejected on the same ground as Claim 34.

Regarding to Claim 63, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 41, as described above. Claim 63 recites similar features as Claim 34, and thus is rejected on the same ground as Claim 34.

Regarding to Claim 64, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 50, as described above. Claim 64 recites similar features as Claim 34, and thus is rejected on the same ground as Claim 34.

Regarding to Claim 67, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 52, as described above. Claim 67 recites similar features as Claim 34, and thus is rejected on the same ground as Claim 34.

Regarding to Claim 68, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 53, as described above. Claim 68 recites similar features as Claim 34, and thus is rejected on the same ground as Claim 34.

Regarding to Claim 69, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 54, as described above. Claim 69 recites similar features as Claim 34, and thus is rejected on the same ground as Claim 34.

Regarding to Claim 70, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 55, as described above. Claim 70 recites similar features as Claim 34, and thus is rejected on the same ground as Claim 34.

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Regarding to Claim 71, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 56, as described above. Claim 71 recites similar features as Claim 34, and thus is rejected on the same ground as Claim 34.

Regarding to Claim 72, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 57, as described above. Claim 72 recites similar features as Claim 34, and thus is rejected on the same ground as Claim 34.

Regarding to Claim 74, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 59, as described above. Claim 74 recites similar features as Claim 35, and thus is rejected on the same ground as Claim 35.

Regarding to Claim 75, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 60, as described above. Claim 75 recites similar features as Claim 35, and thus is rejected on the same ground as Claim 35.

Regarding to Claim 76, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 61, as described above. Claim 76 recites similar features as Claim 35, and thus is rejected on the same ground as Claim 35.

Regarding to Claim 77, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 62, as described above. Claim 77 recites similar features as Claim 35, and thus is rejected on the same ground as Claim 35.

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Regarding to Claim 78, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 63, as described above. Claim 78 recites similar features as Claim 35, and thus is rejected on the same ground as Claim 35.

Regarding to Claim 79, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 64, as described above. Claim 79 recites similar features as Claim 35, and thus is rejected on the same ground as Claim 35.

Regarding to Claim 82, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 67, as described above. Claim 82 recites similar features as Claim 35, and thus is rejected on the same ground as Claim 35.

Regarding to Claim 83, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 68, as described above. Claim 83 recites similar features as Claim 35, and thus is rejected on the same ground as Claim 35.

Regarding to Claim 84, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 69, as described above. Claim 84 recites similar features as Claim 35, and thus is rejected on the same ground as Claim 35.

Regarding to Claim 85, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 70, as described above. Claim 85 recites similar features as Claim 35, and thus is rejected on the same ground as Claim 35.

Regarding to Claim 86, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 71, as described above. Claim 86 recites similar features as Claim 35, and thus is rejected on the same ground as Claim 35.

Regarding to Claim 87, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 72, as described above. Claim 87 recites similar features as Claim 35, and thus is rejected on the same ground as Claim 35.

Regarding to Claim 89, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 59, as described above. Claim 89 recites similar features as Claim 45, and thus is rejected on the same ground as Claim 45.

Regarding to Claim 90, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 60, as described above. Claim 90 recites similar features as Claim 45, and thus is rejected on the same ground as Claim 45.

Regarding to Claim 91, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 61, as described above. Claim 91 recites similar features as Claim 45, and thus is rejected on the same ground as Claim 45.

Regarding to Claim 92, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 62, as described above. Claim 96 recites similar features as Claim 45, and thus is rejected on the same ground as Claim 45.

Regarding to Claim 93, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 63, as described above. Claim 93 recites similar features as Claim 45, and thus is rejected on the same ground as Claim 45.

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Regarding to Claim 94, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 64, as described above. Claim 94 recites similar features as Claim 45, and thus is rejected on the same ground as Claim 45.

Regarding to Claim 97, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 67, as described above. Claim 97 recites similar features as Claim 45, and thus is rejected on the same ground as Claim 45.

Regarding to Claim 98, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 68, as described above. Claim 98 recites similar features as Claim 45, and thus is rejected on the same ground as Claim 45.

Regarding to Claim 99, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 69, as described above. Claim 99 recites similar features as Claim 45, and thus is rejected on the same ground as Claim 45.

Regarding to Claim 100, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 70, as described above. Claim 100 recites similar features as Claim 45, and thus is rejected on the same ground as Claim 45.

Regarding to Claim 101, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 71, as described above. Claim 101 recites similar features as Claim 45, and thus is rejected on the same ground as Claim 45.

Regarding to Claim 102, the combination of D1/Paatelma/Castaldo/Odenwalder teaches all of the limitations of Claim 72, as described above. Claim 102 recites similar features as Claim 45, and thus is rejected on the same ground as Claim 45.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KRISTEN GAO whose telephone number is (571)270-7226. The examiner can normally be reached on Monday-Friday, 9:30am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on (571) 272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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| /George Eng/ Supervisory Patent Examiner, Art Unit 2617 | /KRISTEN GAO/ Examiner, Art Unit 2617 12/05/2009 |
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